DOCUMENT RESUME

ED 230 922 CS 007 204

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TITLE Assessing Word Awareness in the Beginning Reader: An Alternative Strategy. Occasional Paper No. 2.
INSTITUTION National College of Education, Evanston, IL. Reading Center.
PUB DATE 80
NOTE 29p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Beginning Reading; *Developmental Tasks; Grade 1; *Memorization; Primary Education; *Reading Achievement; Reading Processes; *Reading Readiness; Reading Readiness Tests; Reading Research; *Word Recognition

ABSTRACT

While word discrimination studies based on the subjects' conscious manipulation of words--for example, counting the number of words in a line--indicate that beginning readers are unskilled in identifying word boundaries, tests using such indirect methods of assessment as word recognition reveal a strong correlation between the ability to discriminate word units and early reading achievement. Having learned a four-line rhyme through aural coaching, 30 first grade students were asked to point to words as they read the printed poem and identify specific words within the text. The results' high correlation with the scores from an earlier standardized reading readiness test and a follow-up achievement test indicated that being able to relate the spoken with the written word was necessary for early reading success. Though the study was unable to completely isolate unit discrimination from other word recognition skills, it both offers an effective method for assessing reading readiness in young children and suggests methods for helping children develop awareness of word boundaries. (MM)

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ASSESSING WORD AWARENESS IN THE BEGINNING READER: AN ALTERNATIVE STRATEGY

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ASSESSING WORD AWARENESS IN THE BEGINNING READER: AN ALTERNATIVE STRATEGY

Researchers concerned with the reading acquisition process have been interested for some time in children's awareness of linguistic units in spoken and written language. There is general agreement that six-year-olds bring a highly sophisticated spoken language system to the first grade classroom. We also know that spoken language is based on tacit or implicit knowledge: i.e., children can produce and comprehend a spoken language with little or no conscious attention to the grammatical rules or structural units (syllables, words, phrases) comprising that language. Significantly, however, in learning to read children must begin to match units or components of their internalized spoken language to the printed forms on the page. The task facing the children raises important theoretical and practical questions. How and when do children become aware of units in their spoken language? At what linguistic level (phrase, word, syllable, phoneme) should the spoken language-written language match be made?

Several theorists (Clay, 1972; Ehri, 1978; Henderson, 1976) have suggested that what the beginning reader needs to learn first is the correspondence between spoken words and their printed correlates in text. Ehri states:

> ...if printed language receives prior analysis into sequences of abstract word units whose linguistic identities are recognized, then its printed form becomes evident and sound values can be related to letters where there exist correspondences. This suggests that what the beginner needs to learn is how to convert graphic cues to recognizable words (p. 10).

In a similar vein, Weintraub (1971) has argued that children cannot match spoken words with written words if they do not understand that words are printed as units bound by white spaces.

Given this agreement that the ability to match spoken and written word units in the act of reading text is an important beginning reading skill, it is surprising that researchers have not systematically investigated the development of this matching process. Clay's longitudinal, descriptive research (1972) in New Zealand first grade classrooms did consider young readers' ability to coordinate spoken and visual language cues; however, most researchers interested in the reading acquisition process have partitioned the issue of word awareness, studying the beginning reader's knowledge of wordness either wholly in the spoken language mode or in the written language mode.

For example, Downing (1970) and Downing and Oliver (1973) investigated children's conception of a "spoken word." In this experimental paradigm, pre-readers or beginning readers were presented with various classes of verbal stimuli (phonemes, syllables, short words, long words, phrases, sentences) and were instructed to respond "yes" if they thought the stimulus was a single word and "no" if they did not. Results showed that the children consistently confused words with other verbal stimuli, particularly phonemes and syllables. Ehri (1979) questioned whether children in these studies really understood the task instructions, and Warren (1977) has provided evidence as to the low reliability of the "yes-no" word concept task. Nevertheless, Downing's task represents one of the first attempts to study the beginning reader's knowledge of wordness, and the reasoning underlying the task (i.e., children confuse words with other linguistic units) seems to have influenced his current "cognitive clarity theory" (Ayers & Downing, 1979).

Ehri (1975), Holden and MacGinitie (1972), and Karpova (1955)

employed a different methodology in studying children's word awareness in spoken language. These experimenters asked their subjects (first graders, kindergarteners, and pre-schoolers, respectively) to listen to a sentence spoken aloud, and then to repeat the sentence in a special way: i.e., to lay down (or tap) a poker chip as they spoke each word in the test sentence. Results in all three studies showed that: 1) children had difficulty segmenting spoken sentences into their component words, and 2) they found function words (articles, prepositions) the hardest to isolate as individual units.

Other experimenters have focused on children's awareness of word boundaries in written language. In 1969, Meltzer and Herse devised a study in which first graders, two months into the school year, were asked to count and circle the individual word units in a written sentence: "Seven boys in a wagon saw numerous birds downtown today." (Note that this is a very difficult, if not undecipherable sentence for children of early first grade reading ability.) Results indicated that many first graders were unable to use the spaces between words as a boundary cue in their attempts to segment the test sentence into word units. This same written word boundary task has been used in several recent studies whose goal was the assessment of word awareness in beginning readers (Evans, Taylor and Blum, 1979; Blum, Taylor, and Blum, 1979; Warren, 1977).

This brief review of representative word boundary studies suggests that children entering the first grade may have difficulty with three distinct types of language tasks: 1) discriminating spoken words from other verbal stimuli; 2) segmenting spoken sentences into words; and 3) visually identifying word boundaries in text. Such tasks can be

termed "metalinguistic" since they require children to comment on or consciously manipulate units in a linguistic system. Recently, and with mixed results, researchers have used these word awareness tasks to predict first grade reading achievement (Ayers & Downing, 1979; Evans et al., 1979; Warren, 1977). A question arises: Do these single-modality (spoken or visual) metalinguistic tasks represent our best "window" into the complexities of the reading acquisition process? On two accounts the answer appears to be, no.

First, conscious awareness of word units in one's language may be more a result than a cause of learning to read. Ehri (1978) has pointed out that it is implicit knowledge which underlies the learning to read process. She states: "...This implicit knowledge emerges earlier and is quite separate from metalinguistic (conscious) awareness. For any task or behavior, one must consider which level of knowledge is being reflected in order to assess its significance for linguistic development." (p. 8) If the word awareness tasks reviewed above are of a metalinguistic nature, do they require too much linguistic introspection on the part of beginning readers, thereby missing implicit language knowledge that children may bring to the task of reading? Certainly a child could possess considerable knowledge about written language and still perform poorly on a metalinguistic word boundary task. For example, many first graders in the Meltzer and Herse study were reading to some degree even though they were unable to circle or mark correctly each word in a complex printed sentence.

A second reason for reading educators to question the value of these word awareness tasks is that the tasks assess children's knowledge

of wordness via one modality at a time. That is, the child is asked either to perceive aural word boundaries in a spoken sentence or to identify visually the word boundaries in a written sentence. Learning to read in the real world, however, requires simultaneous attention to both spoken and written word boundaries; if neophyte readers are to progress, they must become aware of the one-to-one correspondence between spoken word units and their printed correlates in text. Previous word awareness studies, by the very nature of their assessment methodologies, have not tapped beginning readers' knowledge of this important correspondence between spoken and written word units.

Although we have little experimental evidence as to when or how children acquire understanding of the spoken word-written word match, we are not without some good hypotheses. In a recent monograph Henderson (in press) posited that children's "concept of word" emerges and is refined through experience with written text. The concept of word results from a functional analytic process in which beginning readers learn to match the words in a spoken sentence to the printed forms on the page. At first the process is halting and inexact, but as the spacing between printed words gradually becomes meaningful to the children, their concept of word begins to stabilize and they are able to match the temporal flow of words in a spoken sentence to the corresponding spatial representations in a line of print.

A study by Clay (1966, as cited in Weintraub, 1968) provides support for this position. In tracing the emergent reading behavior of 100 New Zealand first graders, Clay reported an interesting developmental sequence through which many of the children progressed. First, the children would

finger-point to each word as they read a sentence. Next, they would "voice-point" or read the sentence in a slow word-by-word fashion. Finally, as their skill increased, there would be a lighter stress on single words and phrase reading would appear. Clay stated that the finger-pointing and "voice-pointing" seemed to serve an important function in that they strengthened young readers' awareness of the one-to-one correspondence between written and spoken words. This sequence also supports Henderson's idea that concept of word is a developmental phenomenon which depends on experience with written text.

The Study

In line with the theoretical perspective of Clay and Henderson, one aim of the present study was to devise a task that would tap beginning readers' emerging awareness of the spoken word-written word match in reading. To accomplish this aim, a "talking-to-print" methodology was adopted. Reading educators have long known that if children can commit a spoken phrase, sentence, or rhyme to memory, they can then attempt to match the memorized spoken sequence to its printed representation on the page. Such a process underlies historical methods of teaching reading (Samuels, 1979), the language-experience approach (Stauffer, 1980), and even a few reading programs on the contemporary market.

In the present study, first grade subjects committed a spoken poem to memory and then attempted to relate their aural memory of the poem to its printed representation on the page. As the children attempted to read the printed poem, various measures were used to assess their concept of word; i.e., their ability to match spoken word units to printed word units.

The children's performance on this task (first month of school) was later compared to their performance on a word recognition test (third month of school) to determine if the concept of word assessment was a satisfactory predictor of early reading achievement.

METHOD

Subjects

The subjects were selected from two first grade classrooms in a lower middle-class, suburban Chicago elementary school. The 59 children in these classrooms comprised a particularly heterogeneous population with several socioeconomic levels and up to seven ethnic groups represented. All children in the two classrooms were ranked according to their performance on the Metropolitan Readiness Test (administered the previous spring), and this ranking was used to stratify the population into three reading readiness levels: high, average, and low. Next, a sample of 30 children was randomly chosen in such a manner that each level of reading readiness was represented equally (high = 10; average = 10; low = 10).

Procedure

Each of the 30 first graders was tested individually in a quiet room adjacent to the regular classroom. The time required to administer the concept of word task varied with the abilities of individual children, but the average administration time was approximately fifteen minutes. The task itself can be described as a seven-step sequence.

1. Pretest - Word Recognition in isolation. A list of eight printed words was presented to the child, one word at a time. Six words on the list (heel, Old, hair, wagon, pan, died) were target words since

they later appeared in a poem that the child learned to read. It was hoped that the other two words, cat and stop, would be easily recognized and therefore serve as confidence-building items. The child was instructed to read each word and all responses were recorded. No help was provided by the examiner, but shy or hesitant children were encouraged to guess if they had any idea what the word might be. Total score was the number of correct responses on six target words in the list (0-6).

2. Learning to recite the poem. The child learned to recite from memory a four-line poem with the help of picture cues and examiner support. Repeated, supported recitations of the poem led to a final criterion test. The pictures were taken away and the child was asked to recite a given line of the poem when cued with the first word in that line. For example, the examiner would recite the first line in the poem and cue the child by saying the first word in the next line. The child would then complete the line. Next, the examiner would go back and repeat the first two lines and cue the child with the first word in the third line. The final line in the poem was completed in a similar fashion.

After the children had learned to recite the poem with the picture cues, they experienced little difficulty with the line-by-line criterion test. The entire procedure for learning the poem and passing the criterion test took from two to eight minutes, depending on the child. No child was rushed or pressured; the goal was to memorize the poem, not to perform within a given time limit.

3. Pretest - Word Recognition within four lines of text. A printed copy of the four-line poem was revealed to the child with no explanation as to its identity. The child was asked to read individual words within

the poem as the examiner pointed to them with the eraser end of his pencil ("Do you know this one? What about this one?"). The order of pointing is indicated by the numbers below:

1
Old Dan Tucker was a funny old man
5 7
Washed his face in a frying pan
4 6
Combed his hair with a wagon wheel
3 8 2
And died with a toothache in his heel.

Total score equaled the number of correct responses (0-8).

4. Pointing/Word Recognition within one line of text. For the first time the child was informed that the printed copy corresponded to the spoken verse that had just been memorized. The examiner modeled an oral reading of the first line of the poem, pointing to each word as he read. Next, the second line of the poem was framed with two index cards, and the child was cued with the first word in the second line - exactly analogous to the oral cueing procedure described in Step 2. The child's task was to finger-point read line 2. A verbatim oral memory of line 2 had already been established (Step 2); thus, the child's task here was simply to match this oral memory to the written word units within the single line of print. Accuracy in this finger-point reading or matching of spoken and written word units was recorded.

After the child had read line 2 in the pointing manner described above, the examiner asked the child to point to a specific word within the line: "In this line, can you point to _____?" The procedure was repeated with another word (see underlined words in line 2), and in each case the child's response was recorded.[1] The children "caught on" very

quickly to the general task demands in line 2. However, the amount of examiner model-reading did increase as subsequent lines were introduced. For example, before the child read line 3, the examiner modeled a finger-point reading of lines 1 and 2. Before the child attempted to read line 4, the examiner re-read the preceding three lines.

This procedural step contained two separate tasks which yielded scorable responses:

1) Pointing. The child's accuracy in finger-pointing was recorded, line-by-line, in an all-or-none fashion. That is a score of 1 indicated that the child had pointed to each word correctly as he or she read the line (self-corrections were allowed); a score of 0 indicated that the child had erred somewhere within the line in matching spoken words to written words. Since each child read three lines of the poem, the total pointing score equaled the number of lines read correctly (0-3).

2) Within-line recognition of words. The child's performance in locating or recognizing individual words within a single line of the poem also was recorded. There were two target words in each of lines 2, 3, and 4, and one point was awarded for each correct response (0-6).

5. Choral reading of the poem. The examiner and child "choral read" (read together) the entire four-line poem two times. As they read, the examiner pointed to each word These readings were slowed down just a bit to allow for the pointing, but not so much as to alter the natural rhythm of the verse. This step not only reinforced memory of the poem, but the examiner's pointing also provided the child with a model of how spoken words are represented in text.

6. Post-test - Word Recognition within four lines of text. Replication of Step 3.

7. Post-test - Word Recognition in isolation. Replication of Step 1.

The seven-step concept of word task described above provides four measures of the child's awareness of the spoken word - written word match in reading:

(a) ability to point to words as one reads aloud - pointing score (0-3).

(b) ability to identify individual words within a single line (0-6).

(c) ability to identify words within the context of a four-line rhyme (0-8).

(d) ability to identify words following a short, supported reading experience (0-6).

Since each of these abilities must rest on some underlying knowledge of how spoken words are represented in printed text, an attempt was made to quantify this underlying concept of word. All four measures were considered in an additive, or composite score. The child's concept of word score equaled (a) pointing score + (b) word recognition within one line + (c) word recognition within four lines (pre-post difference) + (d) word recognition in isolation (pre-post difference). Note that (c) and (d) were calculated as pre-post difference or gain scores to control for sight words that children may have brought with them to the assessment task.

Approximately two months after the concept of word assessment, the examiner returned to the elementary school to obtain a reading achievement measure on the children involved in the study. The children were tested individually on the first three levels (PP, P, and 1) of the San Diego Quick Assessment List (Lopray and Ross, 1969). A list of 30 words was presented to the child, one word at a time. The child was instructed to

read each word and all responses were recorded. Total score equaled number of correct responses (0-30).

RESULTS

Based on a final N of 23^2, a Pearson Product-Moment correlation analysis indicated a significant relationship between beginning readers' total concept of word score in the first month of school and their performance on a word recognition test administered two months later, $r = .91$ ($p < .001$). Table 1 shows correlations existing among the experimental variables in this study. Table 2 provides the raw scores from which the correlation coefficients were derived.

(Insert Table 1 here.)

(Insert Table 2 here.)

As shown in Table 1, correlational analysis also indicated that children's scores on each of the four components of the concept of word task were significantly related to their total concept of word score. This finding supports the original assumption that each of the four component tasks is to some degree measuring the same underlying word awareness in beginning readers.

Metropolitan Readiness Test (MRT) scores were used in the selection of experimental subjects; therefore, it was possible to compare the first graders' performance on the concept of word task to their performance on the MRT (Table 2 shows raw scores obtained by the children on the five pre-reading subtests of the MRT, Level 2, Form P). The resulting correlation indicated a significant relationship between beginning readers' concept of word scores and their performance on the MRT, $r = .54$ ($p < .01$).

Table 1

Correlations among Total Concept of Word Score,

Concept of Word subtests, San Diego Quick Word Recognition Test,

and Metropolitan Readiness Test (Pre-reading subtests)

	Pointing	W.Rec. w/in 1 line	W.Rec. w/in 4 lines	W.Rec. Iso.	Metro Readiness Test	Word Recognition Test (SDQ)
Total Concept of Word Score	.79*	.89*	.79*	.88*	.54*	.91*
Pointing		.63*	.46	.71*	.71*	.88*
W.Rec. w/in 1 line			.57*	.71*	.46	.77*
W.Rec. w/in 4 lines				.58*	.42	.63*
W.Rec. Iso.					.61*	.82*
Metro. Read. Test						.68*

*$p < .01$

Table 2

Raw Scores on Concept of Word Task, Word Recognition Test, and Metropolitan Readiness Test (Pre-reading subtests)

Child	Concept of Word Assessment					Word Recognition Test	Metro Readiness Test
	Pointing	W.Rec. w/in 1 line	W.Rec. w/in 4 lines	W.Rec. Iso.	TOTAL		
1	3	6	5	4	18	30	68
2	3	6	5	3	17	26	61
3	3	6	3	4	16	29	66
4	2	6	4	4	16	20	64
5	3	5	5	3	16	23	63
6	3	6	4	3	16	29	63
7	2	6	3	4	15	24	65
8	3	6	3	3	15	26	70
9	1	6	6	2	15	19	-
10	2	4	5	2	13	22	59
11	2	6	3	1	12	24	64
12	2	6	0	1	9	18	58
13	0	3	4	2	9	8	33
14	0	5	2	1	8	5	50
15	2	3	3	0	8	8	29
16	0	4	2	1	7	10	33
17	0	4	2	0	6	5	30
18	0	3	3	0	6	7	35
19	1	1	3	0	5	15	52
20	1	1	0	1	3	4	50
21	0	1	1	1	3	9	38
22	1	0	0	0	1	4	34
23	0	0	1	0	1	3	31

This finding suggests that the concept of word task is tapping the general domain of pre-reading skills as defined by traditional readiness tests. Interestingly, however, the concept of word task was a better predictor of subsequent first grade word recognition ability ($r = .91$) than was the MRT ($r = .67$).

Finally, since the total concept of word score was used as the predictor of early reading achievement in this study, it was necessary to determine the reliability of this measure. The Kuder-Richardson 21, an internal consistency formula, was used to assess the reliability of the concept of word score across the 23 subjects. The resulting reliability coefficient equaled .86 .

DISCUSSION

Methodological Concerns

In the present study, performance on the concept of word task in the first month of school was found to be significantly related to performance on a word recognition test taken two months later ($r = .91$). Although this correlation is surprisingly high, it supports a correlational finding, $r = .89$, in a previous study in which the same concept of word task was used to predict first graders' word recognition ability after three months of reading instruction (Morris, in press).

In both these studies, one might question why a word recognition test was used as the measure of reading achievement. This writer believes that reading, even in the initial stages, involves much more than calling out or sounding out individual words. Instruction that supports the child in meaningful, natural written language is advocated. This position,

however, does not negate the fact that word learning plays an important part in reading acquisition. As beginning readers are exposed to written matter in books or in their own dictated stories, they commit certain properties of individual words to memory, forming a stock of known words. Later these known words can be recognized rapidly in new stories, thereby providing a contextual base for the learning of still further words. For these reasons a word recognition test, administered after a few months of first grade reading instruction, would seem to be a useful indicator of reading achievement.

Interestingly, there exists an appealing, if unsubstantiated, explanation for the high correlation between concept of word attainment and subsequent performance on the word recognition test. The idea that a child acquires a sight vocabulary by focusing on stimulus properties of individual words presupposes a knowledge, on the child's part, of what consistutes a word-unit in a line of print. As Weintraub (1971) has stated, "...children cannot learn to recognize words if they do not understand that words are printed as units." Since the present study assessed this very understanding in beginning readers (i.e., that the spoken words in a memorized poem are represented as units in lines of text), the significant relationship found to exist between concept of word attainment and later word recognition ability is not surprising.

In a recent review article, Ehri (1979) questioned the significance of studies which have attempted to assess prereaders' metalinguistic or conscious awareness of written word boundaries (e.g., Holden & MacGinitie, 1972; Meltzer & Herse, 1969). She argued that studies which require children to make judgments about structural units in text (words, letters)

are not assessing a pre-requisite reading skill, but rather are assessing metalinguistic knowledge which develops as a consequence of learning to read. Nevertheless, even Ehri would agree that at some point in the learning-to-read process, beginners must acquire an understanding of the spoken word - written word match. They must begin to map oral language to written language at the word level. If this understanding is at first implicit rather than conscious, tenuous rather than complete, then we are in need of strategies that will assess children's implicit, emerging awareness of word boundaries in written language.

The concept of word task introduced in this study represented an attempt to assess beginning readers' implicit knowledge of the spoken word - written word match in reading. Instead of asking children to make conscious judgments based on their definitional or structural knowledge of wordness, the present study used an indirect assessment strategy that allows one to infer concept of word knowledge without requiring metalinguistic responses from children.

The assessment was indirect in that three of the four tasks which contributed to a child's concept of word score were simple word recognition tasks rather than tasks requiring judgments of linguistic structure (e.g., laying down chips to mark off spoken word boundaries). When beginning readers in the present study were able to identify individual words in the poem as the words were pointed to by the examiner, the children were making responses which presuppose a concept of word. Since the children could not identify the target words until they had learned to recite the poem and been exposed to its printed form, their subsequent recognition of these words within the lines of print (and later in isolation)

can be attributed to their ability to use the structure of the printed poem (structure being letter-groups bound by spaces) to facilitate word recognition. In other words, children's success in recognizing target words within the poem indirectly revealed their knowledge of how spoken words are represented in printed text.

Clinical observation of these children attempting the concept of word task revealed that many of them used a consistent strategy (albeit with varying degrees of success) in trying to identify individual words within the poem. For example, if the examiner pointed to the sixth word in the poem's third line, indicating that the word was to be pronounced, some children would go back to the first word in the third line and begin reading the line aloud, pointing to (or counting off) each word until the target word was reached and its pronunciation could be offered. Other children went all the way back to the first word in the poem and reread the entire poem up to the sixth word in the third line. Although the children were not questioned about this strategy or instructed to use it, their ability to use context in this manner, to count word units accurately in a sequential order, presupposed knowledge on their part of how spoken words are represented in lines of text. The strategy also indicates the indirect yet sensitive manner in which concept of word knowledge was assessed in this study. (See Morris, in press, for a detailed discussion of children's response strategies on the concept of word task.)

It is certainly possible, even probable, that several of the children in this study used not only word boundary knowledge, but also additional cues in their attempts to read words in the poem. For example, if the examiner pointed to the third word in the third line of the poem (hair),

the child could use the word-by-word, contextual strategy mentioned above in his-her attempt to read the target word. If the same child was also able to apply knowledge of beginning consonant letter-sound correspondences, he or she could verify the recognition of the third word, hair, by attending to the initial letter in the word (h = /h/). It should be pointed out, however, that application of beginning consonant letter-sound knowledge depends itself on an awareness of word boundaries in text. Note that there are four h's in line 3:

Combed his hair with a wagon wheel

How is the child to know which one is a beginning consonant without an awareness of word boundaries? Furthermore, beginning consonant knowledge will aid or verify recognition of the word hair in line 3 only if the child is focusing on the correct word-unit in the line. Given these arguments, it is likely that concept of word attainment plays an important facilitative role in allowing beginning readers to apply whatever grapho-phonological knowledge they possess (e.g., beginning consonants) to the task of reading words in text.

One further cue (aside from word boundary or phonic knowledge) that may have influenced children's performance on the concept of word task was the varying amount of word recognition ability that individual children brought to the task. While 16 of the 23 children recognized one or fewer words on the six-word Pretest-Word Recognition in Isolation, 7 children recognized two or three of the six words. This variation in entry-level word recognition was controlled for to some degree by using pre-post difference or gain scores in determining each child's performance on the total concept of word task. Nonetheless, those children who recognized

several words going into the task may have been able to use these known words as "anchor points" in the experimental poem, thereby facilitating their ability to match spoken words to written words as they read the poem.

The contaminating influence of word recognition ability in this type of concept of word assessment can be avoided if one selects subjects who are unable to recognize words on the pretest measures. A recent pilot study has shown that mid-year kindergarteners are a good source of subjects for the concept of word task.

Implications

The concept of word assessment strategy introduced in this study has implications for both researchers and teachers of beginning reading. For researchers interested in the relationship between linguistic awareness and beginning reading achievement, a task is now available that will assess children's ability to match spoken and written word units in the earliest stages of learning to read. The task is reliable, and has proven to be a good predictor of first graders' word recognition ability at the end of a few months of formal reading instruction. Moreover, if the concept of word task is tapping children's language awareness at an implicit level, performance on the task may be an effective predictor not only of early reading achievement, but also of other experimental indices of metalinguistic word knowledge: e.g., aural word boundaries, written word boundaries, metalinguistic interview (see Evans et al., 1979).

A possible research-based criticism of the concept of word task is that it does not isolate a single prerequisite reading skill, but instead measures a complex of interrelated reading skills (word boundary knowledge, grapho-phonic knowledge, left-to-right directionality, hand-eye coordination,

etc.). This criticism, however, can be viewed as an important strength of the assessment strategy if one acknowledges that reading acquisition is a complex, somewhat mysterious cognitive process that is not easily broken down into a tidy hierarchical system of discrete subskills. Neisser (1976) has recently stated that "...psychology must somehow come to terms with the sophistication and complexity of the cognitive skills that people are really capable of acquiring, and with the fact that these skills undergo systematic development." (p. 8) The present concept of word task seems to provide a medium for observing early reading behavior in which both of Neisser's points are honored.

For teachers of beginning reading, the implications of this study are straightforward. 1) The instructional environment should support beginning readers' developing awareness of words in text; and 2) teachers should be sensitive to indicators of conceptual advancement in children's word knowledge. Having children re-read dictated experience stories (Pikulski, 1978) or choral-read poems and rhythmic pattern stories (Emans, 1978) are useful teaching strategies, because the written message is put "in the children's ears" before requiring them to read. In this way children can develop the concept of the spoken word - written word match by working from memory of a spoken language sequence to that sequence's graphic representation on the page. The teacher, in turn, can monitor conceptual advancement in children's word knowledge by watching closely for the early reading behaviors cited in the present study; e.g., ability to finger-point read, to locate individual words within a line of text, to obtain sight words from a brief reading experience.

In an era when the teaching of reading is being initiated in

kindergarten and even in pre-school settings, it is more important than ever that we develop sensitive, reliable procedures for assessing young children's readiness for reading instruction. In this regard, the concept of word task or one of a similar kind would seem to be a valuable adjunct to traditional reading readiness tests. Performance on the concept of word task correlates well with performance on the Metropolitan Readiness Test. More importantly, however, the concept of word task, unlike the MRT or other norm-referenced predictive instruments, provides valuable opportunities for the teacher to observe a child's initial strategies (or lack of strategies) for processing written language. It is from these teacher observations of children's early reading behavior, not from test scores or test norms, that critical decisions regarding beginning reading instruction must ultimately be made. Perhaps the concept of word task should be thought of as a small aid in helping us to understand better what beginning readers are trying to do (and are able to do) in their initial attempts to read written language.

Footnotes

[1]In this step (4) only, word recognition was operationally defined as the child's ability to point to a word within a line of text when the examiner pronounced the word. In all other steps of the concept of word assessment, word recognition refers to the child's ability to identify or name a word when the examiner pointed to the word.

[2]From the original sample of 30 first graders, data was eventually collected on 23 subjects. Of the seven children who were excluded, four recognized all or nearly all (5 of 6) the words on the Pretest - Word Recognition in Isolation and thus could have demonstrated little gain on the post test measures. Furthermore, a previous study (Morris, in press) had shown that children who recognized four or more words on the pre-test experienced little difficulty with the concept of word task.

Three other children were excluded from the original sample for a different reason. These youngsters were unable to memorize the experimental poem. Much time was spent with these children (up to ten practice trials), but the task requirement of verbatim recall of each line of the poem seemed to be beyond their capabilities.

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